WHAT IS CLAIMED IS:

1. A control unit for controlling a motor for use in a printer, comprising:

a speed control part to control an object to be controlled that is driven by the motor by acceleration control, constant speed control, deceleration control, and stoppage control by controlling a current to be applied to the motor; and

an inertia calculating part to calculate inertia of the object based on angular acceleration of the motor under the acceleration control of the object, and current values to be applied to the motor under the acceleration control and the constant speed control of the object, the calculated inertia being used by the speed control part for controlling the current to be applied to the motor.

2. A control unit for controlling a motor for use in a printer, as set forth in claim 1 further comprising a stoppage current calculating part to calculate a stoppage current to be used for stopping the object at a target position based on the calculated inertia, an angular velocity of the motor under the deceleration control of the object, the current value of the motor under the constant speed control of the object, and a stoppage constant $T_{BRK}$, the speed control part performing control of stopping the object by applying the calculated stoppage current.

3. A control unit for controlling a motor for use in a printer, as set forth in claim 2, wherein a predetermined current value Iacc is applied to the motor in a constant current acceleration range under the acceleration control for accelerating the object, the inertia calculation part calculating angular acceleration $\Delta \omega / \Delta t$ in the constant current acceleration range, and calculating inertia J of the object based on the angular acceleration $\Delta \omega / \Delta t$, a current value $I_f$ to be applied to the motor under the constant speed control of the object, and the current value Iacc.

4.     A control unit for controlling a motor for use in a printer, as set forth in claim 3, wherein the current value $I_f$ corresponds to a speed of the object under constant speed control just before a transition from the constant speed control to the deceleration control.

5.     A control unit for controlling a motor for use in a printer, as set forth in claim 1, wherein the stoppage current calculating part uses an angular velocity under deceleration control just before a transition from the deceleration control to the stoppage control, as the angular velocity of the motor.

6.     A control unit for controlling a motor for use in a printer, as set forth in claim 1 further comprising a period measuring part to measure a period of each output pulse of an encoder that rotates in accordance with rotation of the motor, the angular acceleration and the angular velocity of the motor being calculated based on the output of the period measuring part.

7.     A control unit for controlling a motor for use in a printer, as set forth in claim 1, wherein the stoppage constant $T_{BRK}$ is decided based on the current value to be applied motor under the constant speed control and a positional deviation of an actual position of the motor from the target position.

8.     A control unit for controlling a motor for use in a printer, as set forth in claim 1, wherein the motor is a carriage motor for driving a carriage.

9.     A method of controlling a motor for use in a printer, comprising the steps of:

calculating  inertia of an object to be driven by the motor based on angular acceleration of the motor under  acceleration control of the object, and current values to be applied to the motor under the acceleration control and the constant speed control of the object; and

controlling a current to be applied to the motor by means

of the calculated inertia.

10.  A method of controlling a motor for use in a printer, as set forth in claim 9, wherein the step of controlling the current includes the steps of:

calculating a stoppage current to be used for stopping the object at a target position based on the calculated inertia, an angular velocity of the motor under deceleration control of the object, the current value of the motor under the constant speed control of the object, and a stoppage constant $T_{BRK}$; and

stopping the object by applying the calculated stoppage current to the motor.

11.  A method of controlling a motor for use in a printer, as set forth in claim 9, wherein the object is a carriage of a serial printer.

12.  A computer-readable storage medium storing control program code for controlling a motor for use in a printer, comprising:

first program code means for calculating inertia of a carriage based on angular acceleration of a carriage motor under acceleration control of the carriage and current values to be applied to the carriage motor under the acceleration control and constant speed control of the carriage;

second program code means for calculating a stoppage current to be used for stopping the carriage at a target position based on the calculated inertia, an angular velocity of the motor under deceleration control of the carriage, the current value to be applied to the motor under the constant speed control of the carriage, and a stoppage constant $T_{BRK}$; and

third program code means for stopping the carriage by applying the calculated stoppage current to the motor.